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### 1450.01 General

Proper monumentation is important in referencing a highway's alignment, which is used to define its right of way. The department can contribute to the body of public records and minimize duplication of survey work by establishing and recording monuments that are tied to a state plane coordinate system and to a standard vertical datum. The department is required by law to perpetuate existing recorded monuments. (See RCW 58.09.) The department provides monuments for realignments and new highway alignments and perpetuates existing monuments impacted by a project.

The Department of Natural Resources (DNR) is designated as the official agency for surveys and maps. New monuments set to establish property corners, highway alignment, etc., shall be recorded on a Record of Survey or Monumentation Map and filed with the DNR Public Land Survey Office and the appropriate county auditor or county engineer. All Records of Survey and Monumentation Maps are retained at DNR. Geodetic monuments are established and the Headquarters Geographic Services Office retains their placement records. Geodetic monuments are recorded on a Report of Survey Mark. These records are made available to the public on the internet by viewing: <http://www.wsdot.wa.gov/monument>

Existing monuments are not to be disturbed without first obtaining the DNR permits required by state law. DNR allows the temporary covering of a string of monuments under a single permit. State law requires replacement of land boundary monuments after temporary removal according to permit procedures. Washington State Department of Transportation (WSDOT) control and alignment monuments may not be removed without replacement, unless the location of the original position is perpetuated by reference and the appropriate document(s) prepared and filed with the county and the WSDOT Right of Way Plans Branch. Other requirements pertaining to specific monuments are discussed below.

**Figure 1450-1** summarizes the documentation requirements for new and existing monuments.

The region is responsible for identifying and locating all existing monuments; obtaining all required permits before any existing monument is disturbed; and the research to locate existing monuments as required by WAC 332-120-030, as follows:

(2) *Any person, corporation, association, department, or subdivision of the state, county or municipality responsible for an activity that may cause a survey monument to be removed or destroyed shall be responsible for ensuring that the original survey point is perpetuated. It shall be the responsibility of the governmental agency or others performing construction work or other activity (including road or street resurfacing projects) to adequately search the records and the physical area of the proposed construction work or other activity for the purpose of locating and referencing any known or existing survey monuments.*

## 1450.02 References

*Revised Code of Washington* (RCW) 18.43  
“Engineers and Land Surveyors,”

RCW 58.09 “Surveys – Recording,”

RCW 58.24 “State Agency for Surveys and Maps  
– Fees,”

*Washington Administrative Code* (WAC) 332-120  
“Survey Monuments – Removal or Destruction,”  
WAC 332-130 “Minimum Standards for Land  
Boundary Surveys and Geodetic Control Surveys  
and Guidelines for the Preparation of Land  
Descriptions,”

*Highway Surveying Manual*, M 22-97, WSDOT  
“Manual of Instructions for the Survey of the  
Public Lands of the United States 1973 BLM,  
U.S. Department of Interior”

## 1450.03 Definitions

**monument** As defined for this chapter, a monument is any physical object or structure which marks or references a survey point. This includes but is not limited to a point of curvature (P.C.), a point of tangency (P.T.), a property corner, a section corner, a General Land Office (GLO) survey point, a Bureau of Land Management (BLM) survey point, and any other permanent reference set by a governmental agency or private surveyor.

**removal or destruction** The physical disturbance or covering of a monument such that the survey point is no longer visible or readily accessible.

## 1450.04 Control Monuments

Horizontal and vertical control monuments are permanent references required for the establishment of project coordinates tied to the Washington State plane system and elevations tied to a standard vertical datum. By establishing and recording permanent control monuments, the department eliminates duplication of survey work and contributes to the body of public records.

Horizontal and vertical control monuments are required for highway projects requiring the location of existing or proposed alignment

or right of way limits. Monuments set by other agencies may be used if within 1 mile of the project, and the required datum and accuracy were used.

When control monuments are required for a given project, show the existing and proposed control monuments on the contract plans.

For horizontal control:

- Use North American Datum 1983, revised 1991 (NAD83/91).
- Use a minimum of second order, Class II procedures as defined in the *Highway Survey Manual* (M 22-97).
- Provide two monuments near the beginning of the project. Where possible, when setting horizontal control, set points to act as azimuth points. Place points so that line of sight is preserved between them and in an area that will not be disturbed by construction.
- Provide two monuments near the end of the project.
- Provide a pair of monuments at about 3-mile intervals throughout the length of the project.

For vertical control:

- Use North American Vertical Datum 1988 (NAVD88). (See the *Highway Surveying Manual* for orders of accuracy required.)
- Use at least second order procedures for primary vertical control within project limits as defined in the *Highway Surveying Manual*. Use third order for secondary control throughout the project.
- Provide vertical control throughout the length of the project. Desirable spacing is at or near each milepost. Maximum spacing is 3 miles apart.

All control monuments that are established, reestablished, or reset must be filed with the county engineer and the Department of Natural Resources (DNR). Submit a Record of Survey or a Monumentation Map that has been signed by the supervising, licensed, professional engineer or licensed, professional land survey or; if the monument is not used to reference right of way or land corners, submit a Report of Survey Mark. (See the *Highway Surveying Manual* for more detailed guidance on Control Monuments.)

## 1450.05 Alignment Monuments

Alignment monuments are permanent references required for the establishment or reestablishment of the highway and its right of way. Placing monuments at random points, in safe locations and tied to the Washington State plane coordinate system is recommended. (See the *Highway Surveying Manual*.)

Establishment, reestablishment, or resetting of alignment monuments is required on the following highway projects:

- New highway alignment projects
- Highway realignment projects involving new right of way (monuments are only required for the realigned highway section)
- Highway projects where alignment monuments already exist

Before an existing alignment monument is reestablished or reset, a DNR permit is required.

All alignment monuments that are established, reestablished, or reset must be filed with the appropriate county auditor or county engineer. The Record of Survey is filed with the county auditor in the county in which the monument is located and a recorded copy is sent to the Headquarters (HQ) Right of Way Plans Branch. The original Monumentation Map is filed with the county engineer of the county in which the monument is located and a recorded copy, with the filing signatures, is sent to the HQ Right of Way Plans Branch. The HQ Right of Way Plans Branch will forward a copy to DNR.

## 1450.06 Property Corners

A new property corner monument will be provided where an existing recorded monument has been invalidated as a direct result of a right of way purchase by the department. The new property corner monument shall be set by or under the direct supervision of a licensed professional engineer or licensed professional land surveyor.

The licensed land surveyor files the Record of Survey with the county auditor. A recorded copy of the Record of Survey is sent to the HQ Right of Way Plans Branch, and the HQ Real Estate Services Office. The licensed professional engineer files a Monumentation Map with the county engineer of the county in which the monument is located and a recorded copy is sent to the HQ Right of Way Plans Branch and the HQ Real Estate Services Office.

## 1450.07 Other Monuments

A DNR permit is required before any monument may be removed or destroyed.

Existing section corners and BLM or GLO monuments impacted by a project shall be reset to perpetuate their existence. After completing the work, a DNR Land Corner Record is required.

Other permanent monuments established by any other governmental agency must not be disturbed until the agency has been contacted to determine specific requirements for the monument. If assistance is needed to identify a monument, contact the HQ Geographic Services Office.

Resetting monuments must be done by or under the direct supervision of a licensed professional engineer or a licensed professional land surveyor. If a Record of Survey is prepared, it will be filed with the county auditor in the county in which the monument is located. If a Monumentation Map is prepared, it is filed with the county engineer of the county in which the monument is located and a recorded copy is sent to the HQ Right of Way Plans Section. The HQ Right of Way Plans Branch will forward a copy to DNR for their records.

## 1450.08 Documentation

The documents required to be preserved in the Design Documentation Package (DDP) or the Project File (PF) can be found on the following web site:

<http://www.wsdot.wa.gov/eesc/design/projectdev/>

## **1450.09 Filing Requirements**

### **(1) DNR Permit**

When a DNR permit is required, use the application form shown in Figure 1450-2a. The completed application must be signed by a licensed professional engineer or a licensed professional land surveyor and submitted to DNR. The DNR permit applications can be down loaded in TIFF, PDF, or Word format at the following web site:

<http://www.dnr.wa.gov/htdocs/plso/download.htm>.

Monumentation work cannot be done until DNR has approved the permit. In extraordinary circumstances, verbal authorization may be granted by DNR pending the issuance of a written permit.

After resetting the monument, the survey method used must be filed with DNR using the completion report form shown in Figure 1450-2b. The form must be signed by a licensed professional engineer or a licensed professional land surveyor.

### **(2) Documentation Map**

When a Monumentation Map is required, a plan sheet is prepared. Generally, the plan sheet is based on a right of way plan obtained from the HQ Right of Way Plans Branch. A Monumentation Map contains a description of all new and existing monuments indicating their kind, size, and location. In addition, it must contain the seal and signature of a licensed professional engineer or a licensed professional land surveyor. (See the *Plans Preparation Manual*.)

A copy of a Monumentation Map is filed with the county engineer of the county in which the monument is located and a recorded copy is sent to the HQ Right of Way Plans Branch. The HQ Right of Way Plans Branch will forward a copy to DNR for their records.

### **(3) Land Corner Record**

When a Land Corner Record is required, use the forms shown in Figures 1450-3a and 3b. The completed forms must be signed and stamped by a licensed professional engineer or a licensed professional land surveyor and submitted to the county auditor for the county in which the monument is located.

## SET NEW

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### WSDOT Control Monument

**Before:** No permit required.

**After:** File a copy of the Monumentation Map with the county engineer. Send the original to the HQ Right of Way Plans Branch.

### Alignment Monument

**Before:** No permit required

**After:** File a Record of Survey with the county auditor or a Monumentation Map with the county engineer. Send a copy to the HQ Right of Way Plans Branch.

### Property Corner Monument\*

**Before:** Engage a licensed professional land surveyor

**After:** Licensed professional land surveyor files Record of Survey with county auditor or a licensed professional engineer files a Monumentation Map with the county engineer and sends a copy to the HQ Right of Way Plans Branch.

## DISTURB EXISTING\*

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### Control Monument

**Before:** Obtain DNR permit.

**After:** File a copy of the Monumentation Map with the county engineer. Send the original to the HQ Right of Way Plans Branch.

### Alignment Monument

**Before:** Obtain DNR permit.

**After:** File a copy of a Monumentation Map with the county engineer. Send the original to the HQ Right of Way Plans Branch.

### Section Corner, BLM, or GLO Monument

**Before:** Obtain DNR permit.

**After:** File Land Corner Record with the county engineer. Send a copy to the HQ Right of Way Plans Branch.

### All Other Monuments

**Before:**

- Obtain DNR permit.
- Contact governmental agency

**After:** File a copy of a Monumentation Map with the county engineer. Send the original to the HQ Right of Way Plans Branch.

\*Property corner monuments must be filed within 90 days of establishment, re-establishment, or restoration.

## Monument Documentation Summary

*Figure 1450-1*

# APPLICATION FOR PERMIT TO REMOVE OR DESTROY A SURVEY MONUMENT

## PERMIT NO.

You are hereby authorized to remove or destroy  
the described survey monument(s):

AUTHORIZING SIGNATURE/DATE  
(DNR or Other Authorizing Agency)

### APPLICANT INFORMATION:

NAME:

TELEPHONE NO:

DATE:

COMPANY OR AGENCY NAME AND ADDRESS:

I estimate that this work will be finished by (date)\_\_\_\_\_.

\_\_\_\_\_I request a variance from the requirement to reference to the Washington Coordinate System. (Please provide your justification in the space below.)

The variance request is approved; not approved. (FOR DNR USE ONLY) Reason for not approving:

### MULTIPLE MONUMENTS:

\_\_\_\_\_Check here if this form is being used for more than one monument. You must attach separate sheets showing the information required below for each monument affected. You must seal, sign and date each sheet.

### INDEXING INFORMATION FOR AN INDIVIDUAL MONUMENT:

1) THE MONUMENT IS LOCATED IN: SEC TWP RGE 1/4-1/4

2) ADDITIONAL IDENTIFIER: (e.g., BLM designation for the corner, street intersection, plat name, block, lot, etc.)

**MONUMENT INFORMATION:** Describe: 3) the monument/accessories found marking the position,  
4) the temporary references set to remonument the position (include coordinates when applicable), and  
5) the permanent monument(s) to be placed on completion (if a permanent witness monument(s) is set include the references to the original position).

SEAL/SIGNATURE/DATE SIGNED

(Form prescribed 2/94 by the Public Land Survey Office, Dept. of Natural Resources,  
pursuant to RCW 58.24.040 (8).)

**DNR Permit Application**  
*Figure 1450-2a*

## COMPLETION REPORT FOR MONUMENT REMOVAL OR DESTRUCTION

(TO BE COMPLETED AND SENT TO THE DNR AFTER THE WORK IS DONE.)

\_\_\_\_\_ I have perpetuated the position(s) as per the detail shown on the application form.

\_\_\_\_\_  
SEAL/SIGNATURE/DATE SIGNED

**OR**

\_\_\_\_\_ I was unable to fulfill the plan as shown on the application form. Below is the detail of what I did do to perpetuate the original position(s). (If the application covered multiple monuments attach sheets providing the required information. Seal, sign and date each sheet.)

\_\_\_\_\_  
SEAL/SIGNATURE/DATE SIGNED

**DNR Completion Record Form**  
*Figure 1450-2b*



# LAND CORNER RECORD

**GRANTOR/SURVEYOR/PUBLIC OFFICER:** This corner record correctly represents work performed by me or under my direction in conformance with the Survey Recording Act.

COMPANY OR AGENCY:

ADDRESS:

**GRANTEE: PUBLIC**

SEAL/SIGNATURE/DATE

**LEGAL:** TWP: RGE: CORNER CODE:

ADDITIONAL IDENTIFIER: (BLM designation, street or plat names, block, lot, etc.)

COUNTY:

**WASHINGTON PLANE COORDINATES:** N: E:

ORDER: ZONE: DATUM (Date of adjustment):

**CORNER INFORMATION:** Discuss the history, evidence found, and perpetuation of the corner. Diagram the references; provide the date of work; and, if applicable, a reference to a map of record and/or the field book/page no. Use the back, if needed.

This form is in compliance with the intent of RCW 65.04.045 and prescribed by the Public Land Survey Office, Department of Natural Resources - 1/97.

**Land Corner Record**  
*Figure 1450-3a*



MARK THE CORNER LOCATION BELOW AND FILL IN THE CORNER CODE BLANK ON THE OTHER SIDE:  
For corners at the intersection of two lines, the corner code is the alphanumeric coordinate that corresponds to the appropriate intersection of lines.

For corners that are only on one line, the corner code is the line designation and the related line segment; i.e., a corner on line 5 between "B" and "C" is designated BC-5.

For corners that are between lines, the corner code is both line segments; i.e., a corner in the SE1/4 of the SE1/4 of section 18 is designated MN 4-5.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
A																										A
B																										B
C			6				5				4				3				2				1			C
D																										D
E																										E
F																										F
G			7				8				9				10				11				12			G
H																										H
J																										J
K																										K
L			18				17				16				15				14				13			L
M																										M
N																										N
O																										O
P			19				20				21				22				23				24			P
Q																										Q
R																										R
S																										S
T			30				29				28				27				26				25			T
U																										U
V																										V
W																										W
X			31				32				33				34				35				36			X
Y																										Y
Z																										Z
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	

RCW 58.09.060 (2) requires the following information on this form: an accurate description and location, in reference to the corner position, of all monuments and accessories (a) found at the corner and (b) placed or replaced at the corner; (c) basis of bearings used to describe or locate such monuments or accessories; and (d) corollary information that may be helpful to relocate or identify the corner position.

SPACE FOR ADDITIONAL COMMENT:

Land Corner Record  
Figure 1450-3b

